

REMARKS

I. Introduction

Claims 15 to 28 are currently pending in the present application. Claim 15 has been amended. Claims 15 to 28 are rejected. In view of the foregoing amendments and the following remarks, it is respectfully submitted that all of the presently pending claims are allowable, and reconsideration of the present application is respectfully requested.

Applicants note with appreciation the Examiner's acknowledgment of the claim for foreign priority and the indication that all certified copies of the priority documents have been received.

Applicants thank the Examiner for considering the previously filed Information Disclosure Statements, PTO-1449 papers, and cited references. Applicants submit herewith a Supplemental Information Disclosure Statement and PTO-1449 paper, which cites International Patent Application Publication No. WO 02/20964 and provides a complete copy thereof.

II. Rejection of Claims 15 to 28 Under 35 U.S.C. § 102(b)

Claims 15 to 28 were rejected under 35 U.S.C. § 102(b) as anticipated by each of U.S. Patent No. 5,411,000 ("Miyashita et al."), U.S. Patent No. 5,577,476 ("Iyoda"), U.S. Patent No. 6,513,495 ("Franke et al."), and U.S. Patent No. 5,992,385 ("Hess et al."). It is respectfully submitted that none of Miyashita et al., Iyoda, Franke et al., and Hess et al. anticipates the present claims for the following reasons.

Amended claim 15 recites a method for determining an ignition angle for an internal combustion engine, which method provides for adding a base ignition angle, a first ignition angle adjustment determined as part of a knock control, and a second ignition adjustment determined as part of a knock limit control to form a maximum value for adjustment of an ignition angle. None of the relied upon references disclose these features, as discussed in detail below.

Miyashita et al. provide for a selection between an adjustment value that relates to knock avoidance and another adjustment value for adjusting an ignition timing. Miyashita et al. do not disclose, or even suggest, adding a base ignition angle with an adjustment angle determined as part of a knock control and another adjustment angle determined as part of knock limit control to form a maximum value for adjustment of the ignition angle.

With respect to Iyoda, while Iyoda may provide for an ignition timing control influenced by a knock control and based on a gas recirculation, Iyoda does not disclose, or even suggest, adding a base ignition angle, an adjustment angle determined as part of a knock control, and an adjustment angle determined as part of a knock limit control to form a maximum value for adjustment of the ignition angle.

Franke et al. provide for a dynamic determination of a dynamic lead based on acquired operating parameters for adjusting an ignition control quantity in a late direction. Franke et al. do not disclose, or even suggest, an adjustment angle determined as part of a knock control, an adjustment angle determined as part of a knock limit control, and adding the two adjustment angles with a base ignition angle to form a maximum value for adjustment of the ignition angle.

With respect to Hess et al., while Hess et al. may provide for deviating, based on a desired torque, from a previously calculated ignition angle that includes a component originating in a knock control, Hess et al. do not disclose, or even suggest forming a maximum value for adjustment of an ignition angle, and in particular, by adding a base ignition angle, a first adjustment angle determined as part of a knock control, and a second adjustment angle determined as part of a knock limit control.

Thus, none of Miyashita et al., Iyoda, Franke et al., and Hess et al. discloses, or even suggests, all of the features recited in claim 15, so none of Miyashita et al., Iyoda, Franke et al., and Hess et al. anticipates claim 15.

Claim 27 provides for interrupting a knock limit control in a method for adjusting an ignition angle of an engine upon a torque intervention, wherein at least one manipulated variable influencing a knock limit is changed during the torque intervention. None of Miyashita et al., Iyoda, Franke et al., and Hess et al. discloses, or even suggests, this feature.

Thus, none of Miyashita et al., Iyoda, Franke et al., and Hess et al. discloses, or even suggests, all of the features recited in claim 27, so none of Miyashita et al., Iyoda, Franke et al., and Hess et al. anticipates claim 27.

As for claims 16 to 26, which ultimately depend from claim 15 and therefore include all of the features recited in claim 15, and as for claim 28, which depends from claim 27 and therefore includes all of the features recited in claim 27, it is respectfully submitted that none of Miyashita et al., Iyoda, Franke et al., and Hess et al. anticipates these dependent claims for at least the same reasons provided above in support of the patentability of their respective base claims.

Withdrawal of the rejections of pending claims 15 to 28 is therefore respectfully requested.

III. Conclusion

In light of the foregoing, it is respectfully submitted that all of the presently pending claims under consideration are in condition for allowance. Prompt reconsideration and allowance of the present application are therefore earnestly solicited.

Respectfully submitted,

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